

CLAIMS

1. A method of treatment of an existing papillomavirus (PV) infection which includes the step of administration of PV VLPs selected from the group consisting of PV L1 VLPs and PV L1/L2 VLPs to a patient suffering from the PV infection.
2. A method of treatment as claimed in Claim 1 wherein the PV infection is characterised by the presence of epithelial lesions.
3. A method of treatment as claimed in Claim 2 wherein the epithelial lesions are selected from the group consisting of palmar warts, planter warts, ano-genital warts, flat and planar warts of the skin and mucosal surfaces, CIN, equine sarcoid and replicating or vegetative PV infection.
4. A method of treatment as claimed in Claim 3 wherein the PV infection is genital warts caused by HPV 6, 11, 34, 39, 41-44 and 51-55.
5. A method of treatment as claimed in Claim 4 wherein the genital warts are caused by HPV 6 and HPV11.
6. A method of treatment as claimed in any preceding claim wherein the VLPs are produced by cloning the PV L1 gene into a suitable vector and expressing the corresponding conformational coding sequence for L1 in an eukaryotic cell transduced by the vector.
7. A method of treatment as claimed in Claims 1-5 wherein the VLPs are produced by cloning the PV L1 and L2 genes into a suitable vector and expressing the corresponding conformational coding sequence for L1 and L2 in an eukaryotic cell transduced by the vector.

8. A method as claimed in Claim 6 or 7 wherein the L1 or L1 and L2 genes are inserted into an expression vector containing flanking sequences to form a gene construct and the resulting recombinant DNA is co-transfected with wild type baculovirus DNA into a permissive cell line.
- 5 9. A method as claimed in Claim 6 or 7 wherein the cell line is Sf9 insect cells and the expression vector is a baculovirus expression vector.
10. A method as claimed in Claim 8 wherein the cell line is a procaryotic cell line.
- 10 11. A method as claimed in any preceding claim wherein the concentration of PV VLPs administered to the patient is 0.5-20 µg.
12. A method as claimed in Claim 11 wherein the concentration is 1-10 µg.
- 15 13. A method of treatment as claimed in Claim 1 wherein the VLPs exclude adjuvant.
13. A method of treatment as claimed in Claim 11 or 12 wherein dosages of PV VLPs are given 3-6 times over a period of 8-16 weeks.
14. A method of treatment as claimed in Claim 11 wherein dosages of PV VLPs are 3-6 times over a period of 2-4 weeks.
- 20 15. A method of immunization against HPV11 infections by administration of HPV6 VLPs to a patient.
16. A method as claimed in Claim 15 wherein HPV6b VLPs are administered to the patient.
17. A method as claimed in Claim 15 or 16 wherein the

concentration of HPV6 VLPs are 0.5-20 µg.

18. A method as claimed in Claim 17 wherein the concentration of HPV6 VLPs are 1-10 µg.
19. A method as claimed in Claim 17 or 18 wherein dosages of 5 HPV6 VLPs are given 3-6 times over a period of 8-16 weeks.
20. A method as claimed in Claim 17 or 18 wherein dosages of HPV6 VLPs are given 3-6 times over a period of 2-4 weeks.
21. A method of immunization against HPV6 infections by administration of HPV11 VLPs to a patient.
- 10 22. A method of immunization as claimed in Claim 21 wherein the concentration of HPV11 VLPs is 0.5-20 µg.
23. A method of immunization as claimed in Claim 22 wherein the concentration of HPV11 VLPs is 1-10 µg.
24. A method of immunization as claimed in Claim 22 or 23 15 wherein dosages of HPV11 VLPs are given 3-6 times over a period of 8-16 weeks.
25. A method of immunization as claimed in Claim 22 or 23 wherein dosages of HPV11 VLPs are given 3-6 times over a period of 2-4 weeks.
- 20 26. A method of treatment of an existing PV infection which includes the step of administration of PV VLPs without adjuvant to a patient suffering from the PV infections.
27. A method of treatment as claimed in Claim 27 wherein the PV VLPs are chimeric.

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28. A method of treatment as claimed in Claim 26 wherein the PV VLPs comprise E protein.
29. A method of treatment as claimed in Claim 1 wherein the PV VLPs include an adjuvant.
- 5 30. A method of treatment as claimed in Claim 29 wherein the adjuvant is one that induces cellular responses.
31. A method of treatment as claimed in Claim 30 wherein the adjuvants are selected from the group consisting of (1) lipid A and derivatives, (2) Quillaia saponins and derivatives, (3) mycobacteria and
- 10 components or derivatives therefrom and (4) IL 12, GMCSF, other Th1 inducing cytokines and (5) oxidized mannan and analogues thereof.

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